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10/695,492	10/28/2003	David A. Johnson	100110842-1	8162
22879	7590	08/11/2005	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			PHAM, HAI CHI	
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			2861	

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Please find below and/or attached an Office communication concerning this application or proceeding.



## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. The following claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

#### Claim 9:

- The following limitation “a correlation between colorant levels and color values” is unclear in that it is not known how the color values are obtained and how the correlation is set up or derived between the just measured colorant levels and the unknown color values.

#### Claim 11:

- The following limitation “establish the *correlation* between the one or more measured colorant levels and the one or more measured color values” is unclear in that it is not known whether the claimed *correlation* is the same correlation being recited in the parent claim 9.

#### Claim 16:

- The following limitation “a correlation between colorant levels and color values” at line 7 appears to be unclear in that it is not known how the color values are

obtained and how the correlation is set up or derived between the just measured colorant levels and the unknown color values,

- The following limitation “establish the correlation between the measured colorant levels and the measured color values” (emphasis added) at line 14 appears to be unclear in that it is not known whether the claimed *correlation* is the same correlation being recited earlier at line 7.
- Moreover, the limitation “a second calibration mode configured to ... (ii) establish the correlation between the measured colorant levels and the measured color values” (emphasis added) appears to be ambiguous in that, as currently claimed, the second calibration mode can be selected *independently and uniquely* from the first calibration mode and yet borrow the results from the first calibration mode, e.g., “the measured colorant levels” that are obtained from the first calibration mode.

Claim 31:

- The following limitation “a correlation between colorant levels and color values” is unclear in that it is not known how the color values are obtained and how the correlation is set up or derived between the just measured colorant levels and the unknown color values.

Claim 32:

- The following limitation “establishing the correlation between the measured colorant levels and the measured color values” (emphasis added) is unclear in

that it is not known whether the claimed *correlation* is the same correlation being recited in the parent claim 31.

Claim 36:

- The following limitation “a correlation between colorant levels and color values” at line 6 appears to be unclear in that it is not known how the color values are obtained and how the correlation is set up or derived between the just measured colorant levels and the unknown color values,
- The following limitation “establishing the correlation between the measured colorant levels and the measured color values” (emphasis added) at line 14 appears to be unclear in that it is not known whether the claimed *correlation* is the same correlation being recited earlier at line 6.
- Moreover, the limitation “the second calibration mode includes ... establishing the correlation between the measured colorant levels and the measured color values” (emphasis added) appears to be ambiguous in that, as currently claimed, the second calibration mode can be selected *independently and uniquely* from the first calibration mode and yet borrow the results from the first calibration mode, e.g., “the measured colorant levels” that are obtained from the first calibration mode.

Claims 12-15, 17-21 and 33-35 are dependent from claims 11, 16 and 32 above, and are therefore indefinite.

Appropriate correction is required.

### ***Claim Duplication Objection***

3. Claim 11 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 2. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 2, 9 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10 and 11 of copending Application No. 10/695,491. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 10 of the copending Application includes each and every claimed limitations recited in claim 9 of the current Application while claim 11 includes each and every claimed limitation recited in claim 9

of the current Application encompasses each and every claimed limitation as recited separately in claims 2 and 11 of the current Application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denton et al. (U.S. 6,628,426) in view of Scheuer (U.S. 6,697,582).

Denton et al. discloses a printing system comprising a print unit (e.g., print head 12) configured to apply a colorant to a test element (producing a toner test patch 66 on the intermediate belt 36), and a calibration system (sensor arrangement 56 including a light source 58 and a light detector 60) configured to measure one or more colorant levels of the colorant (e.g., density level) applied to the test element before the colorant is in a finished state (the toner test patch on the intermediate belt being sensed before the toner test patch is being transferred onto the print medium or paper and fused), convert the one or more measured colorant levels to corresponding one or more predicted color values based on a correlation between colorant levels and color values (the reflection signal sensed by the light detector 60 is converted into a predicted L\*

value or lightness value that one would expect to obtain if the toner test patch is transferred to paper and fused) (col. 4, lines 1-16).

Denton et al. fails to teach the comparison of the predicted color values to target color values, and the calibration of the print unit if a difference between the predicted color values and the target color values exceeds a threshold value (claims 2, 9, 31), and the measurement of one or more color values of the colorant applied to the print media after the colorant is in the finished state (claims 1, 11, 32, 37, 39), wherein the colorant is in the finished state after being fused onto the print media or formed as a permanent image on the print media, which selection being made less frequently, and the software implementation.

Scheuer discloses a dynamic control of the tone reproduction curve by generating test patches in association with target test patch densities to be applied to a photoreceptor, measuring the actual colorant or toner densities, approximating the actual tone reproduction curve based on the measured actual colorant or toner densities using a curve fitting technique, comparing the actual tone reproduction curve to a target tone reproduction curve, and if the actual tone reproduction curve is not the same a correction in color value is required and thus the color value is changed with a corrected value (col. 5, line 66 to col. 6, line 10). Scheuer further teaches that the printing system can include level 4 controls based on the measurements of the colorants made on a finished state image or a permanent image onto the print media (e.g., an image rendered on a print medium such as paper) and target measurements associated therewith (col. 17, lines 39-44), and thus indicates that such calibration performed on



Art Unit: 2861

the image rendered on the print medium is selected less frequently than that being performed with the colorant deposited on the photoreceptor. Scheuer also teaches the control procedure being performed by the implementation of a hardware and software configuration.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to update the calibration value in the device of Denton et al. every time the measured colorant or toner densities do not match the target colorant or toner densities as taught by Scheuer. The motivation for doing so would have been to optimize the system performance as suggested by Scheuer.

Denton et al. further teaches the test element being a print media transport belt (intermediate belt 36), one or more sensors configured to measure the one or more colorant levels and the one or more color values (sensor arrangement 56 including a light source 58 and a light detector 60).

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

August 9, 2005